
BRUCELLOSIS

Clinical Features: Acute or insidious onset of intermittent or irregular fever, chills, profuse night sweats, weakness, profound fatigue, depression, weight loss, arthralgia and generalized aching. Localized suppurative infections of organs, including liver and spleen, as well as chronic localized infections may occur. Subclinical disease has been reported. Symptoms may last for weeks, months, or years if not adequately treated.

Causative Agent: *Brucella* spp., small gram-negative coccobacilli. Generally caused by *B. abortus*, *B. melitensis*, *B. suis*, and rarely *B. canis*.

Mode of Transmission: Several animals are reservoirs, including cattle, sheep, goats, pigs, bison, elk, deer, caribou, and dogs. Transmission occurs through breaks in skin after direct contact with an infected animal's tissues, blood, urine, vaginal discharges, placenta, or aborted fetuses; or through the ingestion of unpasteurized milk or dairy products from an infected animal. Inhalation of aerosols has resulted in transmission among animals in pens and stables and with humans in laboratories. Accidental self-inoculation of animal vaccine strains has resulted in a few cases. Rare instances of transmission through human breast milk and sexual contact have been documented.

Incubation Period: Highly variable, usually 5-60 days but occasionally several months.

Period of Communicability: As long as the agent is in an animal's tissues or body fluids. Person-to-person transmission does not occur.

Public Health Significance: Brucellosis is a disease that has been nearly eliminated in the U.S. because of vigorous animal health control measures and milk pasteurization. The United States Department of Agriculture (USDA) considers Kansas to be a brucellosis free state. *Brucella* may be used as a biological weapon; however, routine case investigations focus on contaminated dairy products.

Reportable Disease in Kansas Since: 1982

Clinical Criteria

- An illness characterized by acute or insidious onset of fever, night sweats, undue fatigue, anorexia, weight loss, headache, and arthralgia.

Laboratory Criteria for Surveillance Purposes

- Isolation of *Brucella* spp. from a clinical specimen, **OR**

- Fourfold or greater rise in *Brucella* agglutination titer between acute and convalescent phase serum specimens obtained ≥ 2 weeks apart and studied at the same laboratory, **OR**
- Demonstration by immunofluorescence of *Brucella* spp. in a clinical specimen.

Surveillance Case Definitions

- *Confirmed*: A clinically compatible illness that is laboratory confirmed.
- *Probable*: A clinically compatible case that is epidemiologically linked to a confirmed case or that has supportive serology (i.e., *Brucella* agglutination titer of greater than or equal to 160 in one or more serum specimens obtained after onset of symptoms)

Epidemiology and Trends

2005 Kansas Count: 1

	<i>Rate per 100,000</i>	<i>95% CI</i>
Kansas Rate	<0.1	(0.0 – 0.1)
U.S. Rate (2004)	<0.1	NA

One confirmed case of brucellosis reported in Kansas during 2005. Zero to one case has been reported annually in Kansas since 1994, for a total of five cases.